

Amendments to the Claims

1. (Currently amended) A display driver for an active matrix electroluminescent display, the display comprising a plurality of electroluminescent display elements each associated with a display element driver circuit, each said display element driver circuit including a drive field effect transistor having a ~~control gate~~ connection for driving the associated display element in accordance with a voltage on the ~~control gate~~ connection, the display driver comprising:

a plurality of adjustable constant current generators each for driving a said display elements with an adjustable constant current determining said voltage on said gate connection;

~~at least one a display element brightness controller to provide an output to drive a~~ a display element brightness controller to provide an output to drive a configured to control said plurality of adjustable constant current generators to drive said control connection gate connections to control the electroluminescent electroluminescent output from a said display element elements;

a voltage sensor to sense the a said voltage on a said control gate connection; and

a power controller coupled to said voltage sensor for controlling an adjustable power supply for providing an adjustable voltage to said electroluminescent display to power said drive transistors for driving said display elements voltage power supply to said plurality of adjustable constant current generators, said power controller being configured to provide a control signal to adjust reduce said power supply voltage in response to said sensed voltage to a point where a voltage of said adjustable voltage power supply is just sufficient for a said adjustable constant current generators with a highest output current to be able to provide a highest gate connection voltage, said highest gate connection voltage being determined by said highest output current in accordance with a compliance of said adjustable constant current generator with said highest output current.

2. (Canceled)

3. (Canceled)

4. (Currently amended) A display driver as claimed in claim ~~3~~ 1 wherein said voltage sensor is configured to sense the voltage on a said ~~control gate~~ connection by sensing the voltage on a an electrode of said control-line display.

5. (Canceled)

6. (Canceled)

7. (Currently amended) A display driver as claimed in claim ~~6~~ 1 wherein a said display element driver circuit includes a photodiode, and wherein a photocurrent through said photodiode is determined by a said adjustable constant current level to determine ~~the~~ a brightness of said display element.

8. (Canceled)

9. (Canceled)

10. A display driver as claimed in claim ~~8~~ 1 wherein said ~~sensed voltage~~ comprises a voltage on a control connection of highest output current is provided to a display element having a maximum brightness relative to others of said display elements.

11. (Canceled)

12. (Currently Amended) A display driver as claimed in claim ~~44~~ 32 wherein a said display element driver circuit includes a photodiode to reduce said ~~control gate~~ connection voltage in accordance with the brightness of the ~~associated display element~~, and wherein said power controller is configured to reduce said power supply voltage when the control connection voltage of the brightest illuminated display element has

~~reduced to less than a first threshold value after a predetermined interval~~
electroluminescent display element.

13. (Currently amended) A display driver as claimed in claim ~~12~~ 32 wherein said power controller is further configured to increase said power supply voltage when ~~the control~~ said gate connection voltage of ~~the said~~ said brightest ~~illuminated~~ display element has not reduced to less than a ~~second~~ threshold value after ~~said~~ a predetermined interval.

14. (Currently amended) A display driver as claimed in claim 1 further comprising said adjustable voltage power supply.

15. (Canceled)

16. (Canceled)

17. (Currently amended) A method of operating an active matrix electroluminescent display, the display comprising a plurality of pixels each with an associated pixel driver, ~~the display having a power supply and each said pixel driver~~ including a drive field effect transistor having a gate connection for driving the associated display element in accordance with a voltage on the gate connection, the display having a plurality of adjustable constant current generators each for driving a said display element with an adjustable constant current determining said voltage on said gate connection, an adjustable voltage power supply to said plurality of adjustable constant current generators, and a plurality of control lines for setting the brightness of each pixel, the method comprising:

setting controlling said plurality of adjustable constant current generators to drive said gate connections to set the brightness of pixels of the display using said control lines;

monitoring control lines of the display to sense said voltages on said gate connections; and

reducing said power supply voltage responsive to said monitoring to a point where a voltage of said adjustable voltage power supply is just sufficient for a said adjustable constant current generator with a highest output current to be able to provide a highest said gate connection voltage, said highest gate connection voltage being determined by said highest output current in accordance with a compliance of said adjustable constant current generator with said highest output current.

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. A method as claimed in claim 22 17 wherein a said pixel driver includes a photodiode and ~~said current comprises~~ wherein a current through said photodiode is determined by said adjustable constant current.

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Original) An active matrix display driver configured to operate in accordance with the method of claim 17.

28. (Original) A display driver as claimed in claim 1 wherein said electroluminescent display comprises an organic light emitting diode display.

29. (Canceled)

30. (Currently amended) A ~~power controller~~ display driver as claimed in claim ~~15~~, 32 wherein said electroluminescent display comprises an organic light emitting diode display.

31. (Original) A method as claimed in claim 17 wherein said electroluminescent display comprises an organic light emitting diode display.

32. (New) A display driver for an active matrix electroluminescent display, the display comprising a plurality of electroluminescent display elements each associated with a display element driver circuit, each said display element driver circuit including a drive field effect transistor having a gate connection for driving the associated display element in accordance with a voltage on the gate connection, said display being configured for cyclical driving, said gate connection voltage gradually decaying according to the brightness of the associated electroluminescent display element, the display driver comprising:

a display element brightness controller to cyclically drive said display and configured to provide an output to drive a said gate connection to control the electroluminescent output from said display elements;

a voltage sensor to sense a said voltage on a said gate connection; and

a power controller coupled to said voltage sensor for controlling an adjustable voltage power supply to provide an adjustable voltage to said

electroluminescent display to power said drive transistors for driving said display elements, said power controller being configured to reduce said power supply voltage in response to said sensed voltage such that said gate connection voltage of a brightest said display element has decayed sufficiently to switch said brightest display element off at the end of a driving cycle of said display.

33. (New) A display driver as claimed in claim 32 further comprising said adjustable voltage power supply.